

# Current Water Conditions in Massachusetts

## March 12, 2015



- February precipitation was near normal
- February streamflows were normal and below normal
- February groundwater levels were below normal and normal
- February reservoir levels were normal

### Precipitation Conditions

Estimated February state-wide average precipitation is 3.14 inches, which is 97 percent of the long-term average for the month. Precipitation in the regions of Massachusetts ranged from 114 percent (Northeast) to 71 percent (Western) of the long term average. A table of February 2015 estimated precipitation statistics, based on preliminary precipitation data from the Department of Conservation and Recreation and National Weather Service precipitation monitoring networks, is attached. A map at the back of this report shows the areal distribution of February rainfall.

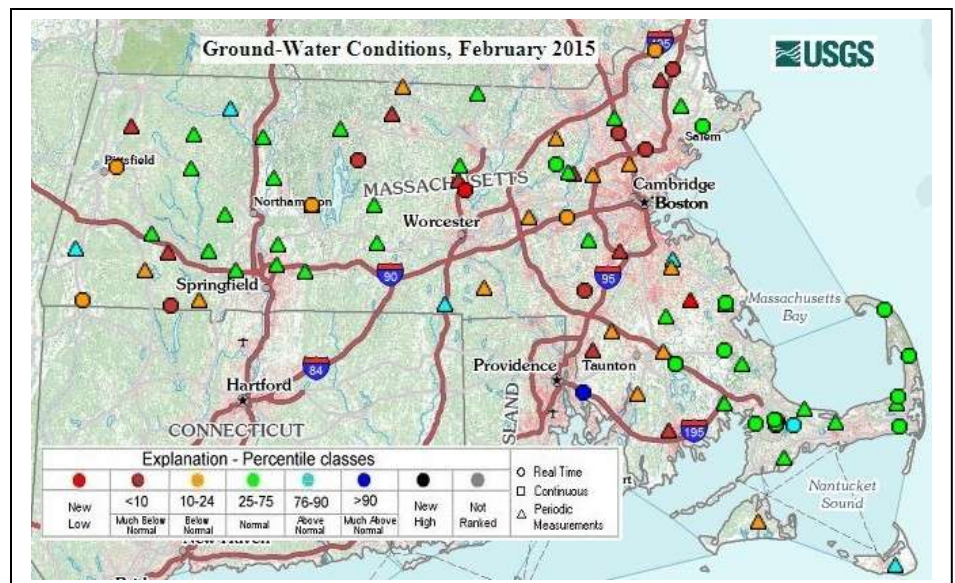
February's weather was highlighted by several moderate snow events early in the month and several smaller events later in the month. Many areas of eastern Massachusetts are approaching record yearly snowfall totals. Severe public transportation disruptions that began with the January Blizzard continued into February and early March. Mainly in eastern Massachusetts, there have been over 200 reports of roof collapses and other structural damage as a result of snow weight.

Water stored in the snow pack (SWE) is estimated to be 4 to 8 inches in most of eastern Massachusetts and lesser amounts, in the 2 to 6 inch range, in western areas of the state by NOAA's National Operational Hydrology Center's remote sensing and modeling. The Connecticut valley area has the least SWE (1 to 4 inches). The snow pack will have to be monitored in the coming weeks as it could pose a flooding problem in weather conditions resulting in rapid snowmelt.

### Ground-Water Levels

Ground-water levels reported by the U.S. Geological Survey at the end of February or beginning of March were generally below normal in the northeast, central, and western areas. Levels in the remaining areas were generally normal. An assessment of ground-water conditions in the Massachusetts drought regions is shown in a table at the end of this report. The northeast, central, and western regions were assessed as having below normal groundwater levels. The remaining regions were normal. The USGS Groundwater Conditions for the end of February 2015 can be viewed at the web site:

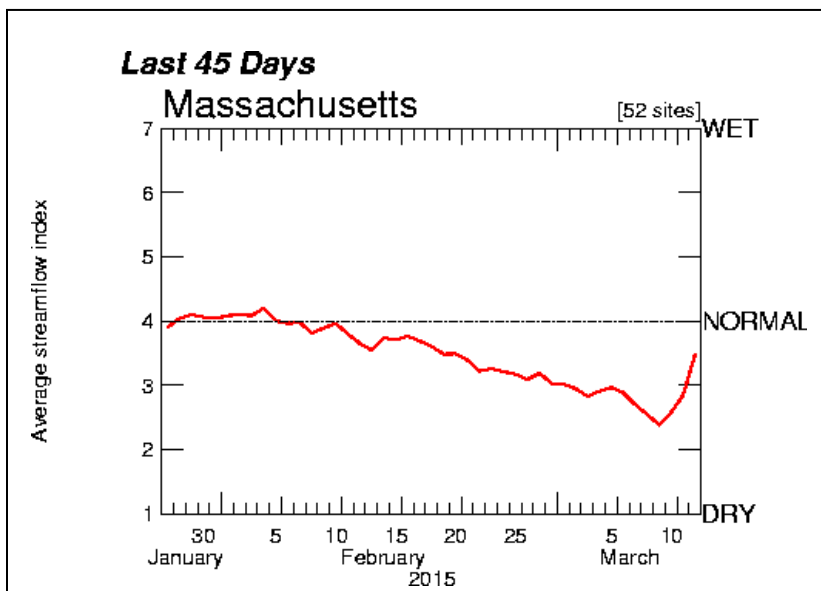
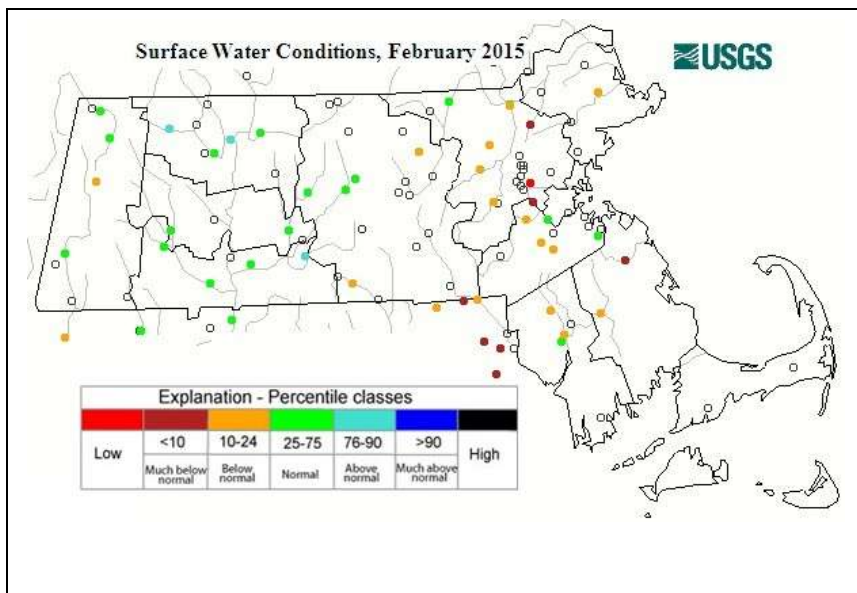
<http://groundwaterwatch.usgs.gov/State/MapsNet.asp?ncd=crn&sc=25>



## Streamflow

Average February 2015 streamflows that are monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program were generally below normal in the northeast and southeastern areas and normal in the rest of the state.

The graph below depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the period of January 27, to March 11, 2015. Stream flows were generally in the low normal range and declining during February as a result of all snow events and very little surface runoff. State-wide streamflow has fallen into the below normal range in early March but the warmer temperatures, snow melt, and light rain during the last few day have resulted in flows rising into the low normal range. The graph is a composite of 52 real-time gages across the state with a long period of record. This streamflow plot can be found at: [http://waterwatch.usgs.gov/index.php?map\\_type1=pa07d&map\\_type2=&map\\_type3=&map\\_type4=&web\\_type=pa07d%2Cplot&state=ma&huc=us&xinfo=&map\\_type=real&group\\_idx=1&region\\_cd=ma&group\\_idx\\_changed=1&sel\\_nm=map\\_type1&sel\\_va=real](http://waterwatch.usgs.gov/index.php?map_type1=pa07d&map_type2=&map_type3=&map_type4=&web_type=pa07d%2Cplot&state=ma&huc=us&xinfo=&map_type=real&group_idx=1&region_cd=ma&group_idx_changed=1&sel_nm=map_type1&sel_va=real)



### KEY:

- 1 = New record low for day
- 2 = < 10<sup>th</sup> percentile
- 3 = 10<sup>th</sup> – 24<sup>th</sup> percentile
- 4 = 25<sup>th</sup> – 74<sup>th</sup> percentile
- 5 = 75<sup>th</sup> – 89<sup>th</sup> percentile
- 6 = ≥ 90<sup>th</sup> percentile
- 7 = New record high for day

## Water Supply Reservoir Levels

Selected surface water reservoir percent-full values for water supply sources provided by water suppliers are listed below. These levels are generally normal for this time of year. The reservoir percent-full values listed are for the end of February or the beginning of March 2015.

*February/March 2015 Massachusetts Reservoir Status*

Reservoir/City or Town	Percent Full	Reservoir/City or Town	Percent Full
Quabbin	95.2	Beverly/Salem	97.3
Worcester	92.6	Lynn	70.3
Cobble Mt./ Springfield	71	Taunton/New Bedford/Assawompsett	94

Note: NA Indicates data not available for this report

## Drought Indices/Forecasts

### US Drought Monitor

The National Drought Mitigation Center's (NDMC's) March 10, 2015 Drought Monitor Map shown at right indicates no drought conditions in all of New England.

### Standardized Precipitation Index (SPI)

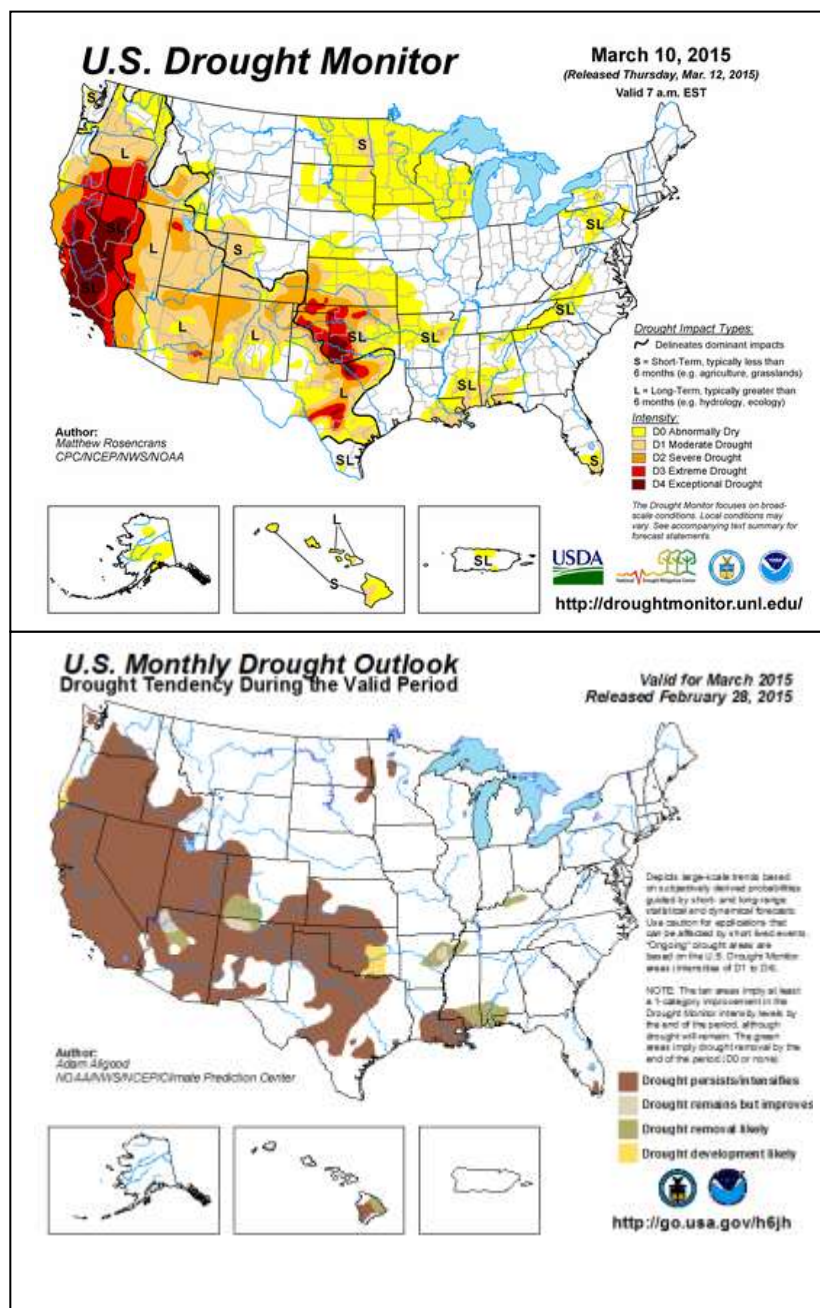
All the Standardized Precipitation Index values for the regions used for the Massachusetts Drought Management Plan are in the normal range.

### NWS/NOAA's Climate Prediction Center

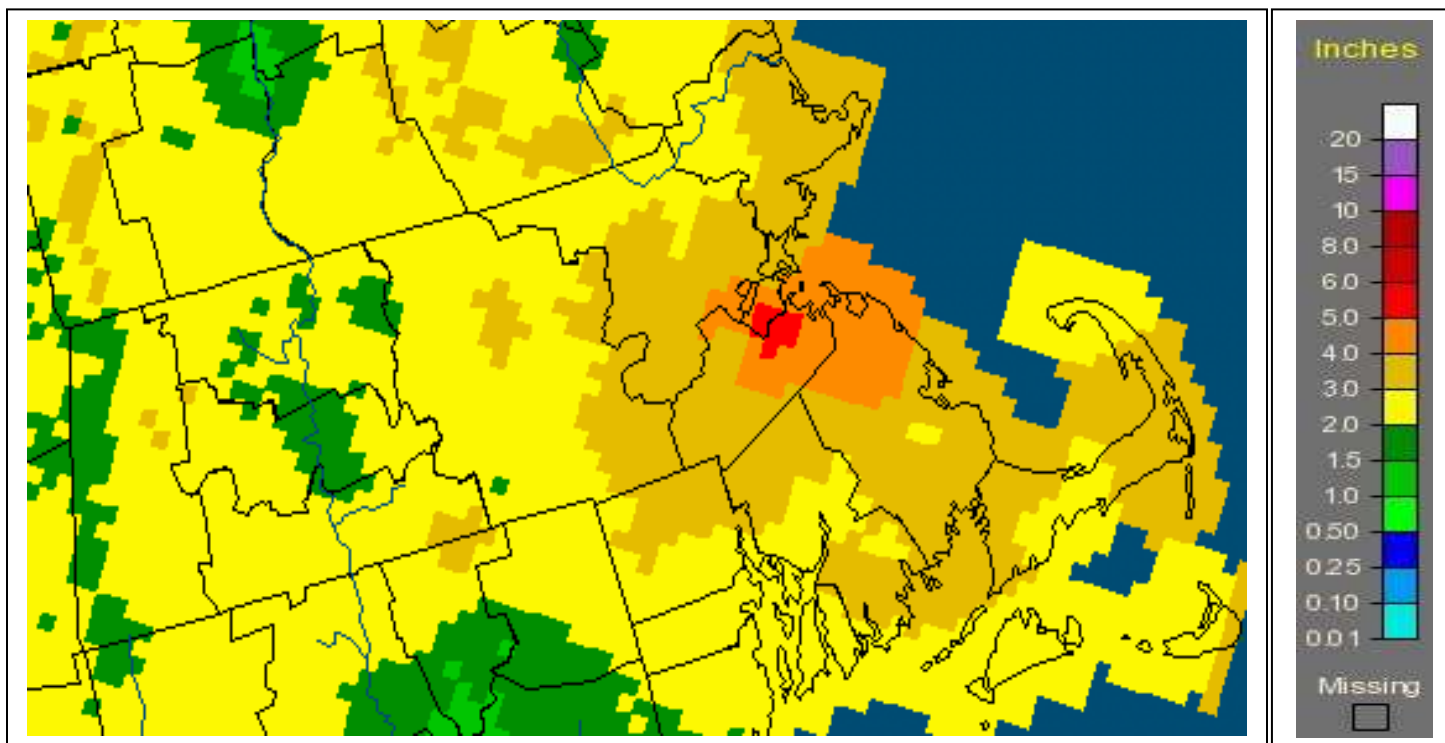
The U.S. Monthly Drought Outlook for March (shown at the right) forecasts that drought conditions will probably not develop during March 2015. The seasonal drought outlook (not shown) predicts that there will likely be no development of drought conditions through the end of May in Massachusetts.

### Extended Forecasts

Dry weather today continues into Friday. A low pressure system will track over or near southern New England during the weekend giving us a 2-day mainly rain event. Precipitation may begin as snow or a mix. Sunday will be colder followed by fair weather early Monday. Possible showers Monday night followed by much colder weather most of next week. The National Weather Service Climate Prediction Center's extended 6 to 10-day forecast is for below normal rain and temperatures. The 8 to 14-day and 1-month forecasts are for normal rainfall and below normal temperatures. The 3-month forecast is for normal rainfall and temperatures. The NWS Climate Prediction Center Information can be found at: <http://www.cpc.noaa.gov/index.php>







<http://water.weather.gov/precip/>

### TOTAL RAINFALL FEBRUARY 2015



### GENERAL WATER CONDITIONS IN MASSACHUSETTS - FEBRUARY 2015 EOEEA and MEMA DROUGHT MANAGEMENT PLAN REGIONS

Massachusetts Regions	Surface-Water Conditions	Ground-Water Conditions
Cape and Islands	ND	Normal
Southeast	Below Normal	Normal
Northeast	Below Normal	Below Normal
Central	Normal	Below Normal
Connecticut River	Normal	Normal
Western	Normal	Below Normal

**Note:** Surface- and ground-water conditions for individual streamflow-gaging stations and wells may differ from general conditions. ND, no data

This report was prepared by the Massachusetts Department of Conservation and Recreation. Data were obtained from the sources described in the report and may be preliminary in nature. Additional information, previous and future water conditions reports can be found on our web site:

<http://www.mass.gov/eea/agencies/dcr/water-res-protection/water-data-tracking/precipitation-composite-current-conditions.html>